

REMARKS

Claims 1-34 and 36-62 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

SPECIFICATION

Minor amendments have been made to the specification to correct a typographical error.

REJECTION UNDER 35 U.S.C. §§ 102 AND 103

Claims 31-56 and 58-60 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Nicholson (U.S. Pat. No. 6,131,915, hereinafter "Nicholson"). This rejection is respectfully traversed.

Claim 31

At the outset Applicants note that claim 31 includes:

"a longitudinally flexible inner sealing portion of said carrier disposed laterally adjacent and substantially defining the periphery of said gasket opening, said inner sealing portion being longitudinally offset relative to the remainder of said carrier, said inner sealing portion being offset in a longitudinal direction toward a first of the members when said gasket assembly is clamped between the mated members; and

a longitudinally flexible outer stopper portion of said carrier spaced laterally away from said gasket opening and disposed laterally outward relative to said inner sealing portion said flexible outer stopper portion and said inner sealing portion being in close lateral proximity with each other and in close lateral proximity with the same said gasket opening, said flexible stopper portion being longitudinally convex relative to the remainder of said carrier on a side of said flexible stopper oriented in a direction toward said first of the members and being longitudinally concave relative to the remainder of said carrier on an opposite side of said flexible stopper oriented in a direction toward a second of the members, said flexible stopper portion being generally trapezoidal in cross-section and being longitudinally offset relative to the remainder of said carrier, said inner sealing portion being longitudinally offset to a greater extent than said flexible stopper portion, said flexible stopper portion acting in conjunction with said inner sealing portion and with respect to the same said gasket opening to flexibly limit the amount of longitudinal compression of said inner sealing portion and being less

flexible than said inner sealing portion, said inner sealing portion being thereby maintained in sealing engagement during relative movement between the members when the members are mated together."

Contrary to claim 31, applicants submit that item 12 of Nicholson is a rigid bead that does not act as a flexible stopper. Further, the embossment 12 is arcuate in cross-section and therefore is not trapezoidal, as claimed. The embossment 12 is also offset the same amount as embossment 14 and therefore is not offset a distance less than the inner sealing portion, as claimed. In particular, with a "flexible stopper" as claimed, the gasket is able to accommodate the tendency for cylinder head lift off by providing a stopper that is also flexible. With a flexible stopper, as claimed, the gasket provides more effective, repeatable and reliable sealing between the members, especially during lower load conditions, such as those resulting from relative movement between the members due to compression, combustion, exhaust or other varying pressures. (See paragraph [0036].) The above advantage is illustrated in Fig. 4 of the present application, which illustrates that the present design is capable of higher sealing loadings than in typical gaskets, throughout design operating ranges. This is because with a flexible stopper, the sealing load doesn't suddenly drop as the members slightly separate as is the case with conventional non-flexible stoppers. The embossment 12 of Nicholson is short and extremely stiff in comparison to the flexible stopper of the present invention. Thus, the embossment 12 of Nicholson does not provide the benefits of a flexible stopper, as claimed.

With regard to embossments 110a of Figs. 12 and 13, it is noted that the embossments 110a include vertical wall segments 112 which are non-flexible and therefore render the embossments effective as a mere stopper. Further, the

embossments 110a are not in close lateral proximity with the inner sealing portion, as claimed.

With regard to embossments 110c of Figs. 12 and 13, it is noted that the embossments 110c include vertical wall segments 111 which are non-flexible and therefore render the embossments effective as a mere stopper. Further, the embossments 110c are not in close lateral proximity with the inner sealing portion, as claimed.

Accordingly, in view of the above distinctions, Applicants respectfully request reconsideration and withdrawal of the above rejections.

NEW CLAIMS

With regard to new claim 61, it is noted that this claim includes the limitations of:

"a longitudinally flexible inner sealing portion of each of said carriers disposed laterally adjacent and substantially defining the periphery of said gasket opening, said inner sealing portion being longitudinally offset relative to the remainder of said carrier, each said inner sealing portion being offset in a longitudinal direction toward an adjacent one of the members when said gasket assembly is clamped between the mated members; and

a longitudinally flexible outer stopper portion of each of said carriers spaced laterally away from said gasket opening and disposed laterally outward relative to said inner sealing portion, said flexible outer stopper portion and said inner sealing portion being in close laterally proximity with each other and in close lateral proximity with the same said gasket opening, each said flexible stopper portion being longitudinally convex relative to the remainder of said carrier on a side of said flexible stopper oriented in a direction toward an adjacent one of the members and being longitudinally concave relative to the remainder of said carrier on an opposite side of said flexible stopper oriented in a direction toward the other of the members, said flexible stopper is generally trapezoidal in cross-section and is longitudinally offset relative to the remainder of said carrier to a lesser extent than said inner sealing portion, said flexible stopper acting in conjunction with said inner sealing portion and with respect to the same said gasket opening to flexibly limit the amount of longitudinal compression of said inner sealing portion and being less flexible than said inner sealing portion, one of said inner sealing portions being thereby maintained in said sealing engagement with the mating surfaces of each of the members during relative movement between the members when the members are mated together."

Contrary to claim 61, Applicants submit that item 12 of Nicholson is a rigid bead that does not act as a flexible stopper. Further, the embossment 12 is arcuate in cross-section and therefore is not trapezoidal, as claimed. The embossment 12 is also offset the same amount as embossment 14 and, therefore, is not offset to a lesser extent than the inner sealing portion, as claimed. In particular, with a "flexible stopper" as claimed, the gasket is able to accommodate the tendency for cylinder head lift off by providing a stopper that is also flexible. With a flexible stopper, as claimed, the gasket provides more effective, repeatable and reliable sealing between the members, especially during lower load conditions, such as those resulting from relative movement between the members due to compression, combustion, exhaust or other varying pressures. (See paragraph [0036].) The above advantage is illustrated in Figure 4 of the present application, which illustrates that the present design is capable of higher sealing loadings than in typical gaskets, throughout design operating ranges. This is because with a flexible stopper, the sealing load does not suddenly drop as the members slightly separate as is the case with conventional non-flexible stoppers. The embossment 12 of Nicholson is short and extremely stiff in comparison to the flexible stopper of the present invention. Thus, the embossment 12 of Nicholson does not provide the benefits of a flexible stopper, as claimed.

With regard to embossments 110a of Figures 12 and 13, it is noted that the embossments 10a include vertical wall segments 112 which are non-flexible and therefore render the embossments effective as a mere stopper. Further, the embossments 110a are not in close lateral proximity with the inner sealing portion, as claimed.

With regard to embossments 110c of Figures 12 and 13, it is noted that the embossments 110c include vertical wall segments 111 which are non-flexible and therefore render the embossments effective as a mere stopper. Further, the embossments 110c are not in close lateral proximity with the inner sealing portion, as claimed.

Accordingly, in view of the above distinctions, Applicants respectfully request allowance of claim 61.

With regard to new claim 62, it is noted that this claim includes the limitations of:

"a longitudinally flexible inner sealing portion of each of said carriers disposed laterally adjacent and substantially defining the periphery of said gasket opening, said inner sealing portion being longitudinally offset relative to the remainder of said carrier, each said inner sealing portion being offset in a longitudinal direction toward one another when said gasket assembly is clamped between the mated members; and

a longitudinally flexible outer stopper portion of each of said carriers spaced laterally away from said gasket opening and disposed laterally outward relative to said inner sealing portion, said flexible outer stopper portion and said inner sealing portion being in close lateral proximity with each other and in close lateral proximity with the same said gasket opening, each said flexible stopper portion being longitudinally convex relative to the remainder of said carrier on a side of said flexible stopper oriented in a direction away from an adjacent one of the members and being longitudinally concave relative to the remainder of said carrier on an opposite side of said flexible stopper oriented in a direction away from the other of the members, said flexible stopper is generally trapezoidal in cross-section and is longitudinally offset relative to the remainder of said carrier to a lesser extent than said inner sealing portion, said flexible stopper acting in conjunction with said inner sealing portion and with respect to the same said gasket opening to flexibly limit the amount of longitudinal compression of said inner sealing portion and being less flexible than said inner sealing portion, a portion of said carriers between said inner sealing portion and said flexible outer stopper portion being thereby maintained in sealing engagement with the mating surfaces of each of the members during relative movement between the members when the members are mated together."

Contrary to claim 62, Applicants submit that item 12 of Nicholson is a rigid bead that does not act as a flexible stopper. Further, the embossment 12 is arcuate in cross-section and therefore is not trapezoidal as claimed. The embossment 12 is also offset

the same amount as embossment 14 and, therefore, is not offset to a lesser extent than the inner sealing portion, as claimed. In particular, with a "flexible stopper" as claimed, the gasket is able to accommodate the tendency for cylinder head lift off by providing a stopper that is also flexible. With a flexible stopper, as claimed, the gasket provides more effective, repeatable and reliable sealing between the members, especially during lower load conditions, such as those resulting from relative movement between the members due to compression, combustion, exhaust or other varying pressures. (See paragraph [0036]). The above advantage is illustrated in Figure 4 of the present application, which illustrates that the present design is capable of higher sealing loadings than in typical gaskets, throughout design operating ranges. This is because with a flexible stopper, the sealing load doesn't suddenly drop as the members slightly separate as is the case with conventional non-flexible stoppers. The embossment 12 of Nicholson is short and extremely stiff in comparison to the flexible stopper of the present invention. Thus, the embossment 12 of Nicholson does not provide the benefits of a flexible stopper, as claimed.

With regard to embossments 110a of Figures 12 and 13, it is noted that the embossments 110a include vertical wall segments 112 which are non-flexible and therefore render the embossments effective as a mere stopper. Further, the embossments 110a are not in close lateral proximity with the inner sealing portion, as claimed.

With regard to embossments 110c of Figures 12 and 13, it is noted that the embossments 110c include vertical wall segments 111 which are non-flexible and therefore render the embossments effective as a mere stopper. Further, the

embossments 110c are not in close lateral proximity with the inner sealing portion, as claimed.

Finally, Applicants submit that Nicholson fails to disclose "a portion of said carriers between said inner sealing portion and said flexible outer stopper portion being thereby maintained in sealing engagement with the mating surfaces of each of the members during relative movement between the members when the members are mated together," as claimed.

Accordingly, in view of the above distinctions, Applicants respectfully request allowance of claim 62.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (734) 354-5445.

Respectfully submitted,

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